Discussion on "Microphonics Measurements in Spoke Cavities" by Mike Kelly

The interpretation of the ANL microphonics data shows that the understanding of the cryoplant parameters is very important for the severity of this effect. The data taken with the cryosystem connected to the cavity test cryostat clearly showed cryoplant driven effects that are not seen when the system is disconnected.
In the further discussion on the issue of "loosing lock" due to microphonics it became clear that high mechanical resonance frequencies help a lot to reduce the impact of microphonics. A control system can recover (unnoticeable to the beam delivery onto the target) quickly from deviations of the tuning window, if the phase error to be corrected is small. High frequencies of the mechanical resonances mean short time periods of detuning and thus small accumulation of phase error.
On the applicability of these ANL measurements to the real accelerator Kelly pointed out that the test cryostat is a good replica of the real cryostat. The cavities are already tested in horizontal orientation in a horizontal cryo-vessel. Many of the auxiliary components and fixtures resemble the components that would be used in operation.